

# **solid state communications**

**an international journal  
volume 100**



**Pergamon**

# SOLID STATE COMMUNICATIONS

EDITOR-IN-CHIEF, MANUEL CARDONA

ASSOCIATE EDITOR-IN-CHIEF, ARON PINCZUK

## BOARD OF EDITORS

- H. AKAI, *Osaka*  
Department of Physics, Graduate School of Science, Osaka University, 1-16 Machikaneyama, Toyonaka, Osaka 560, Japan
- S. ALEXANDER, *Rehovot*  
G. BASTARD, *Paris*  
Department of Chemical Physics, Weizmann Institute of Science, Rehovot 76100, Israel  
Laboratoire de Physique de la Matière Condensée de l'ENS, 24 rue L'homond, F-75231 Paris Cedex 05, France
- P. BURLET, *Grenoble*  
CEA Grenoble, DRFMC/SPSMS - MDN, F-3804 Grenoble Cedex 09, France
- C. CALANDRA, *Modena*  
Università di Modena, Dipt. di Fisica, Via Campi 213/A, I-41100 Modena, Italy
- L. L. CHANG, *Clear Water Bay*  
R. G. CLARK, *New South Wales*  
Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong  
National Pulsed Magnet Laboratory, The University of New South Wales, P.O. Box 1, Kensington, New South Wales, Australia, 2033
- M. F. COLLINS, *Hamilton*  
Department of Physics and Astronomy, McMaster University, Hamilton, Ontario L8S 4M1, Canada
- J. H. DAVIES, *Santa Barbara*  
Center for Quantized Electronic Structures, University of California, Santa Barbara, CA 93106, U.S.A.
- P. H. DEDERICH, *Jülich*  
Institut für Festkörperforschung der Kernforschungsanlage Jülich, GmbH, Postfach 1913 D-52428 Jülich, Germany
- F. J. DISALVO, *Ithaca*  
R. C. DYNES, *La Jolla*  
A. L. EFROS, *Salt Lake City*  
Cornell University, Chemistry Department, Baker Laboratory, Ithaca, NY 14853-1301, U.S.A.  
University of California, Physics Department, La Jolla, CA 92093, U.S.A.  
On leave from September 1997 until September 1998. Department of Physics, University of Utah, 201 Fletcher Building, Salt Lake City, UT 84112, U.S.A.
- H. ESCHRIG, *Dresden*  
MPG Research Group Electron Systems, Department of Physics, TU Dresden, D-01062 Dresden, Germany
- Z. GAN, *Beijing*  
C. E. T. GONÇALVES DA SILVA, *Campinas*  
M. GRYNBERG, *Warsaw*  
E. L. IVCHENKO, *St Petersburg*  
J. JOFFRIN, *Paris*  
H. KAMIMURA, *Tokyo*  
Department of Physics, Peking University, Beijing 100871, People's Republic of China  
Laboratório Nacional de Luz Sincrotron/CNPq/MCT, Caixa Postal 6192, Campinas 13081-970 SP, Brazil  
Institute of Experimental Physics, University of Warsaw, ul. Hoza 69, PL-00681 Warsaw, Poland
- L. V. KELDYSH, *Moscow*  
J. KUHL, *Stuttgart*  
D. J. LOCKWOOD, *Ottawa*  
H. VON LÖHNESEN, *Karlsruhe*  
A. F. IOFFE Physico-Technical Institute, Politechnicheskaya 26, 194021 St Petersburg, Russia  
Université Paris-Sud, Laboratoire de Physique des Solides, Bâtiment 510, F-91405 Orsay, France  
The Science University of Tokyo, Department of Applied Physics, Faculty of Science, 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162, Japan
- S. G. LOUIE, *Berkeley*  
B. LUNDQVIST, *Göteborg*  
A. H. MACDONALD, *Bloomington*  
E. E. MENDEZ, *Stony Brook*  
P. N. Lebedev Institute, Academy of Sciences of the U.S.S.R. Leninskii Prospect 53, 117924 Moscow, Russia  
Max-Planck-Institut für Festkörperforschung, Heisenbergstrasse 1, D-70569 Stuttgart, Germany  
IMS, Building M-36, National Research Council, Ottawa, Ontario K1A 0R6, Canada  
Physikalisches Institut der Universität Karlsruhe (TH), Engesserstrasse 7, D-76128 Karlsruhe, Germany  
University of California, Physics Department, 366 Le Conte Hall Nr. 7300, Berkeley, CA 94720-7300, U.S.A.  
Institute of Theoretical Physics, Chalmers University of Technology, S-412 96 Göteborg, Sweden  
Department of Physics, Indiana University, Bloomington, IN 47405, U.S.A.  
Department of Physics, State University of New York at Stony Brook, Stony Brook, NY 11794-3800, U.S.A.
- E. MOLINARI, *Modena*  
P. PHILLIPS, *Cambridge*  
C. N. R. RAO, *Bangalore*  
T. TSUZUKI, *Sendai*  
S. USHIODA, *Sendai*  
D. VAN DYCK, *Antwerp*  
P. WACHTER, *Zürich*  
F. YNDURÁIN, *Madrid*  
Dipartimento di Fisica, Università di Modena, Via Campi 213/A, I-41100 Modena, Italy  
Cavendish Laboratories, Madingley Road, Cambridge CB3 0HE, U.K.  
Indian Institute of Science, CSIR Centre of Excellence in Chemistry, Bangalore 560012, India  
Department of Physics, Faculty of Science, Tohoku University, Aoba-ku, Sendai 980, Japan  
Research Institute of Electrical Communication, Tohoku University, Sendai 980-77, Japan  
University of Antwerp (RUCA), Groenenborgerlaan 171, B-2020 Antwerp, Belgium  
Laboratorium für Festkörperforschung der ETH, CH-8093 Zürich, Höggerberg, Switzerland  
Dpto. de Física de la Materia Condensada C-III, Universidad Autónoma de Madrid, Cantoblanco, 28049-Madrid, Spain
- A. ZAWADOWSKI, *Budapest*  
Institute of Physics, Technical University of Budapest, XI. Budafok út. 8, H-1521 Budapest, Hungary

## PRODUCTION CONTACT

T. BEUZEVAL, RAM Journals, Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

**SOLID STATE COMMUNICATIONS** is a companion journal to **THE JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS**.

*Publishing Offices:* Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010, U.S.A.; Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K. Tel., Oxford (01865) 843000. Fax., Oxford (01865) 843010.

*Advertising Offices: Europe & Rest of the World:* The Advertising Department, Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K. [Tel: (+44) (0) 1865 843565, Fax: (+44) (0) 1865 843976, E-mail: media@elsevier.co.uk]. U.S.A., Canada and South America: Tino De Carlo, The Advertising Department, Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010, U.S.A. [Tel: (+1) (212) 633 3815, Fax: (+1) (212) 633 3820, E-mail: tcarlo@elsevier.com]. Japan: The Advertising Department, Elsevier Science Japan [Tel: (+81) (3) 5561 5033, Fax: (+81) (3) 5561 5047].

Copyright © 1998 Elsevier Science Ltd

*Annual Institutional Subscription Rates 1998:* Europe, The CIS and Japan, 4996 Dutch Guilders. All other countries, US\$ 2871. Associated Personal Subscription rates are available on request for those whose institutions are library subscribers. Dutch Guilders prices exclude VAT. Non-VAT registered customers in the European Community will be charged the appropriate VAT in addition to the price listed. Prices include postage and insurance and are subject to change without notice. Any enquiries to subscriptions should be sent to: **The Americas:** Elsevier Science, Customer Support Department, PO Box 945, New York, NY 10010, U.S.A. [Tel: (+1) 212-633-3730/1-888-4ES-INFO, Fax: (+1) 212-633-3680, E-mail: usinfo-f@elsevier.com]. **Japan:** Elsevier Science, Customer Support Department, 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106, Japan [Tel: (+3) 5561-5033, Fax: (+3) 5561-5047, E-mail: info@elsevier.co.jp]. **Asia Pacific (excluding Japan):** Elsevier Science (Singapore) Pte Ltd, No. 1 Temasek Avenue, 17-01 Millenia Tower, Singapore 039192 [Tel: (+65) 434-3727, Fax: (+65) 337-2230, E-mail: asianfo@elsevier.com.sg]. **Rest of the World:** Elsevier Science, Customer Service Department, PO Box 211, 1001 AE Amsterdam, The Netherlands [Tel: (+31) 20-485-3757, Fax: (+31) 20-485-3432, E-mail: nlinfo-f@elsevier.nl].

*Back Issues:* Back issues of all previously published volumes, in both hard copy and on microform, are available direct from Elsevier Science offices (Oxford, New York).

**PERIODICALS POSTAGE PAID AT RAHWAY, NEW JERSEY AND ADDITIONAL ENTRY POINTS.** Solid State Communications (ISSN 0038-1098) is published four issues per month January to December in four volumes, by Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K. The annual subscription in the U.S.A. is \$2871. Solid State Communications is distributed by Mercury Airfreight, 10 Camptown Road, Irvington, New Jersey 07111-1105. POSTMASTER: Please send address corrections to Solid State Communications, c/o Elsevier Science Regional Sales Office, Customer Support Department, 655 Avenue of the Americas, New York, NY 10010.

OCTOBER

VOLUME 100, NUMBER 1

1996

(Published 30 August 1996)

CONTENTS

III Publisher's Announcement

I. S. Gorban, M. M. Biliy, I. M. Dmitruk and  
O. A. Yeshchenko

D. Richards, J. Wagner and J. Schmitz

M. Binder, T. Edelman, T. H. Metzger and  
J. Peisl

G. F. Lorusso, F. Tassone, V. Capozzi,  
J. L. Staehli and D. Martin

Y. G. Shen, J. Yao, D. J. O'Connor, B. V. King  
and R. J. MacDonald

X. L. Xiao, J. Häring, B. Heinz and P. Ziemann

J. Avendaño-López, F. L. Castillo-Alvarado,  
A. Escamilla-Esquivel, G. Contreras-Puente,  
J. Ortiz-López and O. Zelaya-Angel

Y. Tanaka, M. I. Visscher, B. Rejaei and  
G. E. W. Bauer

D. Kaczorowski and N. Stüßer

A. Mascarenhas, Yong Zhang, R. Alonso and  
S. Froyen

Lei Gao and Zhen-ya Li

E. Navarro, A. R. Yavari, A. Hernando,  
C. Marquina and M. R. Ibarra

1 Ions of excitonic molecule in  $\beta$ -ZnP<sub>2</sub> crystals

7 Landau damped intersubband plasmons in InAs/AlSb quantum wells

13 Structure and correlations in porous silicon studied by X-ray scattering methods

17 Anderson and Stark localization in superlattices: residual coupling and fine structure

21 A search for clock reconstruction in fcc (001) surfaces induced by monolayer metal films: Pd/Cu(001), Pt/Cu(001) and Pd/Pt/Cu(001)

27 Effect of helium ion irradiation at medium energies on the anisotropy of critical currents in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7- $\delta$</sub>  thin films

33 Optical phonons in Zn<sub>x</sub>Cd<sub>1-x</sub>Se thin films

37 Tunneling spectroscopy of mesoscopic charge density wave systems

43 Neutron diffraction study of the magnetic ordering in UCu<sub>1.3</sub>Sn<sub>2</sub> and UNi<sub>1.4</sub>Sn<sub>2</sub>

47 Orientational superlattices in ordered GaInP<sub>2</sub>

53 Nonlinear thermal conductivity of granular composite medium

57 Enthalpies of B2 antiferro-ferromagnetic and metastable fcc-B2 transformations in FeRh

i Keywords

(Published 6 September 1996)

## CONTENTS

- |  |   |
|--|---|
|  | III Publisher's Announcement  |
| M. P. Grumbach and R. M. Martin                        | 61 Phase diagram of carbon at high pressure: analogy to silicon   |
| Š. Pick and H. Dreyssé                                 | 67 A tight-binding model of oxygen chemisorption on magnetically live V(001)  |
| V. N. Gridnev  | 71 New approach to the theory of second harmonic generation in reflection and transmission of light                                   |
| S. Tanaka and Y. Kayanuma                              | 77 Lattice relaxation and resonant X-ray emission of C 1s core exciton in diamond   |
| M. Mizukami, H. Fujimori and M. Oguni                  | 83 Possible emergence of plural sets of $\alpha$ - and $\beta$ -glass transitions in orientationally disordered crystal, cyclohexanol |
| A. V. Korolev and M. A. Liberman                       | 89 Polaritons and a built-in condensate of excitons in a high magnetic field  |
| F. G. Pikus and G. E. Pikus                            | 95 Weak localization and negative magnetoresistance in wurtzite-type crystals   |
| Wei Chen, Zhaojun Lin, Zhanguo Wang and Lanying Lin    | 101 Some new observation on the formation and optical properties of CdS clusters in zeolite-Y   |
| Q. Williams and L. Guenther                            | 105 Pressure-induced changes in the bonding and orientation of hydrogen in FeOOH-goethite   |
| M. Palomino-Ovando, P. H. Hernández and G. H. Cocletzi | 111 Effects of the exciton-plasmon coupling on the optical properties of semiconducting-conducting superlattices                      |
| T. Chattopadhyay, G. J. McIntyre and U. Köbler         | 117 Antiferromagnetic phase transition in GdAg  |
| F. Brosens, J. T. Devreese and L. F. Lemmens           | 123 Canonical Bose-Einstein condensation in a parabolic well  |
| WeiJun Hu, LiangMo Mei and Hua Li                      | 129 Simulation of ground state structure of nickel clusters ( $n \leq 40$ )   |
|  | i Keywords  |

(Published 13 September 1996)

## CONTENTS

- |  |  |
|--|--|
|  | III Publisher's Announcement   |
| C. A. Gautier, J. C. Loulergue and J. Etchepare  | 133 Homodyne and heterodyne impulsive Raman Kerr nonlinearities in crystals: application to E-symmetry polariton modes in PbTiO <sub>3</sub> |
| A. Gold and L. Calmels   | 137 Exchange, correlation and compressibility in quantum wires: anisotropic confinement model  |
| S. A. Solin, D. Hines, A. J. Jacobson and S D. Mahanti   | 143 Anharmonic effects in the basal expansion of layered solids: the layered perovskites   |
| N. K. Gloskovska, J. Bieleninik, I. V. Kityk, J. Kasperczyk, M. R. Panasiuk and L. I. Yaritska | 149 Optical properties and phase transitions in CdBr <sub>2</sub> -PbBr <sub>2</sub> layered systems   |
| Y. Yoshida, Y. Kubozono, H. Maeda, Y. Nishihata, S. Kashino and T. Ishii                       | 153 Temperature dependence of lattice constant and lattice vibration of Rb <sub>3</sub> C <sub>60</sub> crystals                             |
| I. M. Chang, J. C. Fan and Y. F. Chen  | 157 Study of the photoluminescence instability of porous silicon under light illumination  |

T. Morinari and N. Nagaosa	163	Edge modes in the hierarchical fractional quantum Hall liquids with Coulomb interaction
Jih Shang Hwang, K. J. Lin and Cheng Tien	169	Antiferromagnetism and mass-enhanced behavior in $\text{Ce}_2\text{CuSi}_3$
G. Harari, J. Taylor and A. D. S. Nagi	173	The critical temperature of an anisotropic superconductor in the presence of a homogeneous magnetic field and impurities
L. X. Benedict, S. G. Louie and M. L. Cohen	177	Heat capacity of carbon nanotubes
A. Perali, A. Bianconi, A. Lanzara and N. L. Saini	181	The gap amplification at a shape resonance in a superlattice of quantum stripes: a mechanism for high $T_c$
I. Kušević, P. Šimundić, E. Babić, M. Ionescu, H. K. Liu and S. X. Dou	187	Scaling of $J_c$ - $B$ curves in BSCCO/Ag tapes
D.-K. Seo, M.-H. Whangbo, B. Fravel and L. K. Montgomery	191	Comparison of the Fermi surfaces of isostructural organic conducting salts $(\text{BEDT-TTF})_2\text{MHg}(\text{SCN})_4$ and $(\text{BEDT-TSF})_2\text{MHg}(\text{SCN})_4$ ( $M=\text{NH}_4$ and K)
M. Ya. Azbel'	195	Inhomogeneous persistent currents at high temperatures
I. Laulicht and Y. Kraftmakher	201	Fine structure and auto-oscillations of subsidiary absorption in tangentially magnetized YIG films
	i	Keywords

OCTOBER

VOLUME 100, NUMBER 4

1996

(Published 20 September 1996)

## CONTENTS

	III	Publisher's Announcement
F. Demangeot, J. Frandon, M. A. Renucci, O. Briot, B. Gil and R. L. Aulombard	207	Raman determination of phonon deformation potentials in $\alpha$ -GaN
P. Fisher and R. E. M. Vickers	211	Zeeman spectroscopy of neutral copper in germanium
B. Stébé, E. Assaad, S. Le Goff and F. Dujardin	217	Giant oscillator strengths of ionized donor bound excitons in semiconductor quantum crystallites
M. Geddo, S. Di Lernia, A. Stella, A. Bosacchi, S. Franchi, M. Gentili and D. Peschiaroli	221	Photoreflectance versus photoluminescence in strain induced quantum well wires
Y. Kanzawa, M. Fujii, S. Hayashi and K. Yamamoto	227	Doping of B atoms into Si nanocrystals prepared by r.f. co-sputtering
D. S. Kim, H. S. Ko, Y. M. Kim, S. J. Rhee, S. C. Hong, Y. H. Yee, W. S. Kim, J. C. Woo, H. J. Choi, J. Ihm, D. H. Woo and K. N. Kang	231	Anomalous real space charge transfer through thick barriers in $\text{GaAs}/\text{Al}_x\text{Ga}_{1-x}\text{As}$ asymmetric double quantum wells: $\text{Al}_x\text{Ga}_{1-x}\text{As}$ as a percolating barrier
F. Rachdi, L. Hajji, C. Goze, D. J. Jones, P. Mairesles-Torres and J. Rozière	237	Quantum size effects induced by confinement of $\text{C}_{60}$ in MCM41
N. Nordman and O. Salminen	241	Thickness variations in amorphous $\text{As}_2\text{S}_3$ films induced by electron beam
E. T. M. Kernohan and R. T. Phillips	245	Two-phonon Raman scattering in InP
A. Z. Menshikov and J. Schweizer	251	The transverse magnetization components in the ground state of invar $\gamma\text{-Ni}_{1-x}\text{Fe}_x$ alloys
Ta-Ryeong Park and Soonil Lee	257	The elastic interactions between the intercalants in layered intercalation compounds
E. T. M. Kernohan, R. T. Phillips, B. H. Bairamov, D. A. Ritchie and M. Y. Simmons	263	Raman scattering lineshapes in GaAs and InP

G. M. Gusev, U. Gennser, X. Kleber,  
D. K. Maude, J. C. Portal, D. I. Lubyshev,  
P. Basmaji, M. De P. A. Silva, J. C. Rossi and  
Yu. V. Nastaushv

V. A. Kremerman, A. B. Kuklov and J. L. Birman

269 Absence of delocalised states in a 2D electron gas in a magnetic field below  $\omega_c\tau = 1$

275 Evanescent field Raman scattering by phonons with parabolic dispersion

i Author Index Nos 1-4

v Keywords

NOVEMBER

VOLUME 100, NUMBER 5

1996

(Published 27 September 1996)

# CONTENTS

## III Publisher's Announcement

U. Weiss

281 Low-temperature conduction and DC current noise in a quantum wire with impurity

R. Kumar, A. S. Vengurlekar and S. S. Prabhu

287 On the line shape of intensity correlated nonlinear photoluminescence spectra due to delocalized excitons in GaAs quantum wells

O. P. Balkashin, A. G. M. Jansen, U. Gottlieb,  
O. Laborde and R. Madar

293 Electron-phonon interaction spectra of TaSi<sub>2</sub>, NbSi<sub>2</sub> and VSi<sub>2</sub>

S. R. Bahcall

297 Non-perturbative effects near the upper critical field in type-II superconductors

H. Haug and L. Bányai

303 Improved spectral functions for quantum kinetics

S. J. Harker, G. A. Stewart and A. V. J. Edge

307 Induced thulium magnetisation for the *Immm* phase of Tm<sub>2</sub>BaNiO<sub>5</sub>

F. Ramos-Mendieta and P. Halevi

311 Surface modes in a 2D array of square dielectric cylinders

M. Erbudak, M. Hochstrasser and E. Wetli

315 Angular anisotropy in secondary-electron production and emission from Cu(001) and the reciprocity theorem

J. Stimmer, C. Wetterer and G. Abstreiter

321 Photoluminescence of erbium-oxygen-doped silicon grown by molecular beam epitaxy

Th. Östreich, T. Portengen and L. J. Sham

325 Second-order optical response from a Bose-Einstein condensate of excitons

A. Wiedenmann and Jun-Ming Liu

331 Dynamic scaling phenomena in phase separation of amorphous Cu<sub>12.5</sub>Ni<sub>10</sub>Zr<sub>41</sub>Ti<sub>14</sub>Be<sub>22.5</sub>, as probed by small-angle neutron scattering

P. S. Dobal, H. D. Bist, A. Manivannan,  
R. S. Katiyar, S. K. Mehta and R. K. Jain

337 Polarization effects in AlGaAs single quantum well laser structure

S. Aripnammal, B. Jayavel and S. Natarajan

341 High pressure electrical resistivity study on orthorhombic SnTe<sub>1-x</sub>Se<sub>x</sub>

L. A. Wahab and S. A. Fayek

345 Study of non-isothermal kinetics and thermal characterization of As-Se-Te system

Zhen Ye and Er-xuan Ping

351 Effects of cylindrical dielectric layer systems on the radiation from an electric line source

E. A. Popov, N. V. Polyakov and V. A. Zhikharev

355 Radiofrequency scanning of inhomogeneously broadened Mössbauer spectra

W. Lau and M. Singh

359 The effect of anisotropy on the semiconductor to semimetal transition of type II semiconductor superlattices



Kee Hag Lee, Seong Soo Park, Chan Gyun Jo,  
Wang Ro Lee, Han Myoung Lee and  
U-Sung Choi

365 Tight-binding band calculations on electronic structure and  
properties of F-substituted YBCO

i Keywords

NOVEMBER

VOLUME 100, NUMBER 6

1996

(Published 9 October 1996)

CONTENTS

III Publisher's Announcement

- P. G. Baranov, I. V. Ilyin and E. N. Mokhov 371 Electron paramagnetic resonance of the group-III deep acceptor  
impurities in SiC
- Cheolse Kim, Choochun Lee and Sung-Chul Shin 377 Defect generation by hole injection in hydrogenated amorphous  
silicon
- H. Schwenk, M. Sieling, D. König, W. Palme,  
S. A. Zvyagin, B. Lüthi and R. S. Eccleston 381 Magnetic resonances and magnetization in the spin ladder  
compound  $(VO)_2P_2O_7$
- K. Alami-Yadri and D. Jaccard 385 High pressure electrical resistivity of  $YbCu_2Si_2$
- K. Kuriyama, K. Sakai, K. Ushiyama, M. Okada  
and K. Yokoyama 389 Thermally stimulated current study of electron-irradiated  
semi-insulating Fe-doped InP
- H. Kawaji, K. Iwai, S. Yamanaka and M. Ishikawa 393 Composition dependence of the superconducting transition  
temperature of silicon clathrate compound  $Na_4Ba_6Si_{46}$
- Ke-Ming Wang, Xi-Ju Liu, Bo-Rong Shi, Fei Lu,  
Meng-Qi Men, Ji-Tian Liu, Yi-Hua Wang and  
Huan-Chu Chen 397 Range profile parameter of  $Hg^+$  implanted in SBN crystal
- M. Allegrini, C. Ciofi, A. Diligenti, F. Fuso,  
A. Nannini, V. Pellegrini and G. Pennelli 403 Photoluminescence from ion-beam cosputtered  $Si/SiO_2$  thin films
- D. C. Saha and T. N. Misra 407 Percolation of triplet excitation in sol-gel matrix
- T. Kawamura and S. Das Sarma 411 Spatial correlation effect of ionized impurities on relaxation and  
scattering times in high-mobility GaAs heterojunctions
- D. Tillmann and E. Kisker 415 Magnetic properties of ultrathin epitaxial  $\gamma$ -Fe films on  
 $Cu_3Au(001)$
- A. I. Belousov and Yu. E. Lozovik 421 Topological phase transition in 2D quantum Josephson array
- Jinqi Qin, Chuluo Yang, Kyuya Yakushi,  
Yasuhiro Nakazawa and Kenji Ichimura 427 Synthesis and properties of a new ferromagnetic  
2,2'-bipyridine- $MnPS_3$  intercalation compound
- J. K. Jung, Y. M. Seo, K. T. Han, S. H. Choh,  
Y. M. Park and S. K. Song 433 Impurity effect on  $^{14}N$  NQR in  $Na_{1-x}Ag_xNO_2$  mixed crystals
- T. Oshiro, C. K. Lutrus, D. E. Hagen, S. H. Suck  
Salk 439 A cluster model treatment of oxygen adsorption on simulated  
silicon surfaces by using large silicon clusters

i Keywords

NOVEMBER

VOLUME 100, NUMBER 7

1996

(Published 18 October 1996)

CONTENTS

III Publisher's Announcement

- T. Amand, X. Marie, D. Robart, P. Le Jeune,  
M. Brousseau and J. Barrau 445 Spin repolarization in bidimensional gas of interacting excitons

- S. K. Hoffmann, W. Hlczar and J. Goslar 449 Electron spin echo studies of flipping type minimum in phase memory time of Cu(II) ions in triglycine selenate crystal at low temperatures
- C. Tanguy 453 Coulomb correlations to the induced gain in the optical Stark effect of semiconductors
- J. Hugel and M. Kamal 457 Electronic ground state of MnO, FeO, CoO and NiO within the LSDA + U approximation
- A. S. Duarte, H. L. Fragnito and E. Palange 463 Light induced permanent modifications of the nonlinear optical properties of semiconductor doped glasses
- Hang Nam Oak, Kyung Seon Baek and Youri Jo 467 Superparamagnetic relaxation in  $\text{Cu}_3\text{FeS}_4$
- V. I. Arkhipov, G. J. Adriaenssens and Baojie Yan 471 Temperature-dependent distributions of activation energies in amorphous semiconductors
- M. Said, C. M. Bertoni, A. Fasolino and S. Ossicini 477 Electronic structure of rare earth arsenide/gallium arsenide superlattices
- K. Devriendt, H. Poelman and L. Fiermans 481 X-Ray photoelectron forward scattering and single scattering cluster calculations for  $\text{V}_2\text{O}_5$  (001)
- A. Wojs and P. Hawrylak 487 Exciton-exciton interactions in highly excited quantum dots in a magnetic field
- L. Hajji, F. Rachdi, C. Goze, M. Mehring and J. E. Fischer 493 High resolution  $^{13}\text{C}$  NMR investigation of  $\text{A}_6\text{C}_{60}$  ( $\text{A} = \text{K}, \text{Rb}, \text{Cs}$ ) and  $\text{Ba}_3\text{C}_{60}$
- M. Fritze, A. Kastalsky, J. E. Cunningham, W. H. Knox, R. N. Pathak and I. E. Perakis 497 Many-body and disorder effects in the optical spectra of extremely high density Be  $\delta$ -doped GaAs
- S. Singh, A. Kapoor, S. C. K. Misra and K. N. Tripathi 503 Optimization of waveguide parameters of *bisphenol A* polycarbonate
- D. Mendoza and R. Escudero 507 The exponent  $\gamma$  in the photoconductivity of  $\text{C}_{60}$  films
- A. Watterich, A. Hofstaetter, R. Wuerz and A. Scharmann 513  $\text{Ti}^{3+}$  centres in reduced  $\text{ZnWO}_4\text{:Ti}$  single crystals
- P. K. Rajan, B. Jagadeesh, K. Venu and V. S. S. Sastry 519 Phase transitions and cation dynamics in  $[(\text{CH}_3)_2\text{NH}_2]_3\text{Bi}_2\text{Cl}_9$  (DMACB)—proton spin relaxation studies
- S. Balasubramanian and V. Venkataraman 525 Valley splitting in  $\text{Si/Si}_{1-x}\text{Ge}_x$  heterostructures
- D. P. Cann, C. A. Randall and T. R. Shrout 529 Investigation of the dielectric properties of bismuth pyrochlores
- P. K. Rajan, B. Jagadeesh, K. Venu and V. S. S. Sastry 535 Proton NMR studies of molecular dynamics in  $[(\text{CH}_3)_4\text{N}]_3\text{Bi}_2\text{X}_9$  ( $\text{X} = \text{Cl}$  and  $\text{Br}$ )
- E. G. Tsitsishvili 541 Optical anisotropy in quantum wires of cubic crystals
- P. Lefebvre, T. Richard, H. Mathieu and J. Allegre 547 Erratum: Influence of spin-orbit split-off band on optical properties of spherical semiconductor nanocrystals. The case of CdTe

NOVEMBER

VOLUME 100, NUMBER 8

1996

(Published 17 October 1996)

## CONTENTS

## III Publisher's Announcement

- P. K. Sitch, Th. Köhler, G. Jungnickel, D. Porezag and Th. Frauenheim 549 A theoretical study of boron and nitrogen doping in tetrahedral amorphous carbon
- S. Hughes, A. Knorr, S. W. Koch, R. Binder, R. Indik and J. V. Moloney 555 The influence of electron-hole-scattering on the gain spectra of highly excited semiconductors



D. P. Joubert, Lin Li and J. E. Lowther	561	Supercell calculation of relaxation at the vacancy in diamond
K. S. Roh, M. G. Kim, K. S. Ryu and C. H. Yo	565	Nonmetallic spin glass behavior by spin frustration at low temperature in nonstoichiometric $\text{BaSn}_{1-x}\text{Fe}_x\text{O}_{3-y}$ system
J. Tang, T. Kosaka, T. Matsumura, T. Matsumoto, N. Môri and T. Suzuki	571	The valence state of TmTe at high pressure
D. Laffargue, F. Fourgeot, F. Bouree, B. Chevalier, T. Roisnel and J. Etourneau	575	The antiferromagnetic-ferromagnetic transition of $\text{Ce}_2\text{Pd}_{2.04}\text{Sn}_{0.96}$ stannide
P. I. Arseyev, N. K. Fedorov and B. A. Volkov	581	Order parameter anisotropy caused by the symmetry properties of coupling matrix element in two-band model of a superconductor
P. J. Jensen and K. H. Bennemann	585	Theory for the temperature induced reorientation of the magnetization in thin films
B. Bonanni, G. Gigli, A. Frova, L. Ferrari, S. Selci and F. Martelli	591	Surface proximity effects in III-V quantum wells investigated by photoreflectance
Yichun Liu, F. Demichelis and A. Tagliaferro	597	The effect of nitrogen on the microstructure and the luminescence properties of <i>a</i> -C:H thin films
H. Iga, S. Kodama and H. Naito	603	Transport and generation processes of ionic carriers in amorphous polymethylphenylsilane
I. Ardelean, O. Cozar, S. Filip, V. Pop and I. Cenan	609	EPR and magnetic susceptibility studies of $\text{Cu}^{2+}$ ions in $\text{Bi}_2\text{O}_3\text{-GeO}_2$ glasses
	i	Author Index
	vii	Keywords

DECEMBER

VOLUME 100, NUMBER 9

1996

(Published 25 October 1996)

## CONTENTS

## III Publisher's Announcement

U. C. Upreti and A. V. Narlikar	615	Excess conductivity, critical region and anisotropy in $\text{YBa}_2\text{Cu}_3\text{O}_x$
V. Nagirnyi, A. Stolovich, S. Zazubovich, V. Zepelin and G. P. Pazzi	621	Effect of magnetic field on the decay kinetics of triplet luminescence of the self-trapped exciton perturbed by $\text{Tl}^+$ ion in thallium-doped cesium halides
S. M. Bose, P. Longe and M. Bawin	625	Possible observation of Aharonov-Bohm effect in a graphene tubule
X. X. Liang and Jinsheng Yang	629	Effective-phonon approximation of polarons in ternary mixed crystals
I. S. Suzuki, K. DeVries, C. R. Burr and M. Suzuki	635	Magnetic susceptibility of $\text{CoCl}_2 \cdot x\text{Br}_2$
M. M. Pereira de Azevedo, M. S. Rogalski and J. B. Sousa	639	Magnetoresistance and phase analysis in splat-cooled Fe-Cu granular alloys
A. K. Solanki, A. Kashyap, T. Nautiyal, S. Auluck and M. A. Khan	645	Band structure and optical properties of graphite
B. Crivelli, M. Martini, F. Meinardi, A. Paelari and G. Spinolo	651	Excitation channels of the 4.3 eV photoluminescence in Ge-SiO <sub>2</sub>
A. Borghesi, A. Sassella, B. Pivac and L. Zanotti	657	Si-H bonding configuration in $\text{SiO}_2\text{:N,H}$ films deposited by chemical vapor deposition
I. Vurgaftman, J. R. Meyer and L. R. Ram-Mohan	663	Detuned intersubband resonances for broadband field-modulated second-harmonic generation in a waveguide

X. W. Cao, Z. H. Wang, J. Fang, X. J. Xu and J. Z. Shi

H. R. Salva, A. A. Ghilarducci and F. Levy

669 Anisotropic critical current density and crossover of single-collective vortex pinning in epitaxial  $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$  thin film

673 Peierls transition of  $(\text{TaSe}_4)_2\text{I}$  in torsion measurements

i Keywords

DECEMBER

VOLUME 100, NUMBER 10

1996

(Published 1 November 1996)

# CONTENTS

## III Publisher's Announcement

H. Ebert

677 Influence of the orbital polarization on the magnetic X-ray dichroism of transition metals

H. Casalta, P. Bourges, D. Petitgrand and A. Ivanov

683 Low temperature magnetic excitations in  $\text{Nd}_2\text{CuO}_4$  single crystals studied by neutron scattering

N. Narsimlu and G. Sivarama Sastry

687 Optical properties of anhydrous copper (II) formate single crystal

W. E. Pickett, E. C. Ethridge and S. C. Erwin

691 Niobium nitride: stability and integrity of the "NbO phase"

R. Rönnow and J. Isidorsson

695 Electrocrystallisation studied *in situ* by optical scattering

G. Palasantzas

699 Slope-slope correlations for self-affine rough surfaces

G. Palasantzas

705 A study of  $(1+1)$ -dimensional height-height correlation functions for self-affine fractal morphologies

G. A. Farias and F. M. Peeters

711 Structural transitions in a finite classical two dimensional system

J. Stankowski and J. Martinek

717 A model of fullerene conductance

O. G. Singh, C. S. Harendranath, O. Prakash and B. D. Padalia

721 Direct experimental evidence for the local oxygen non-stoichiometry in electron-doped  $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4-\delta}$

H.-M. Kagaya, E. Serita, M. Sato and T. Soma

727 Lattice dynamics and Debye temperature of Al-Cu, Al-Si and Al-Ge alloy systems

A. R. Lim, K. S. Hong and J.-H. Chang

731 Thermal properties and  $^1\text{H}$  NMR relaxations for liquid crystalline polymer blends with PBT

S. C. Bhargava and B. N. Wani

737 Erratum: Mössbauer study of  $\text{Sr}_2\text{CuO}_2\text{F}_{2+\delta}$  superconductor

i Keywords

DECEMBER

VOLUME 100, NUMBER 11

1996

(Published 8 November 1996)

# CONTENTS

## III Publisher's Announcement

H. Shao, S. Scholl, H. Schäfer, J. Gerschütz, B. Jobst, D. Hommel and G. Landwehr

739 Shubnikov-de Haas oscillations of a two-dimensional electron gas in a modulation-doped  $\text{Zn}_{0.80}\text{Cd}_{0.20}\text{Se}/\text{ZnS}_{0.06}\text{Se}_{0.94}$  single quantum well

H. W. Yoon, A. Ron, M. D. Sturge and L. N. Pfeiffer

743 Diffusion of free trions in mixed type GaAs/AlAs quantum wells

C. Carbone, E. Vescovo, R. Kläsches, D. D. Sarma and W. Eberhardt

749 Magnetic and finite size effects in Cu films on Co(100)

M. Watanabe, Y. Nogami, K. Oshima, J.-I. Yamaura, T. Enoki and G. Saito

755 Structural phase transition in  $(\text{BEDT-TTF})_3\text{CuBr}_4$  at 60 K

- Y. Nakayama, K. Hirooka and R. West 759 Electric conduction in oriented polysilane films
- P. D. Wang, J. L. Merz, N. N. Ledentsov, P. S. Kop'ev, V. M. Ustinov and C. M. Sotomayor Torres 763 Enhanced exciton binding energy in InAs monolayers grown on (311)A GaAs substrates
- Z. B. Guo, N. Zhang, W. P. Ding, W. Yang, J. R. Zhang and Y. W. Du 769 Lattice effect in Pr doped La-Sr-Mn-O perovskite
- M. Khaled, N. L. Saini, K. B. Garg and F. Studer 773 X-Ray absorption study at Pr  $L_3$ -edge in (Y,Pr)Ba<sub>2</sub>Cu<sub>3</sub>O<sub>7- $\delta$</sub>  system
- A. L. Ruoff, K. Ghandehari, H. Luo, S. S. Trail, F. J. DiSalvo and G. L. Bucher 777 Phonon reflectivity behavior in CsH and CsD at megabar pressures: phonons in the near IR ( $\lambda = 1-2 \mu\text{m}$ )
- E. A. Katz, V. Lyubin, D. Faiman, S. Shtutina, A. Shames and S. Goren 781 Persistent photoelectric phenomena in oxygenated C<sub>60</sub> thin films
- P. N. Gajjar, B. Y. Thakore and A. R. Jani 785 Asphericity in the Fermi surface of aluminium and lead
- A. S. T. Pires 791 Calculation of the spin stiffness for the anisotropic classical Heisenberg model using a self-consistent harmonic approximation
- R. A. Casali 795 Hydrostatic deformation potential in the framework of pseudopotential: Coulombic corrections
- F. Parmigiani, L. Rollandi, G. Samoggia and L. E. Depero 801 X-Ray photoelectron study of the relaxor lead magnesium niobate

## i Keywords

DECEMBER

VOLUME 100, NUMBER 12

1996

(Published 15 November 1996)

## CONTENTS

- III Publisher's Announcement
- A. A. Maznev, K. A. Nelson and T. Yagi 807 Surface phonon spectroscopy with frequency-domain impulsive stimulated light scattering
- Q. Guo, M. Ikejira, M. Nishio and H. Ogawa 813 Optical properties of zinc telluride in vacuum ultraviolet region
- J.-S. Kim, S.-H. Suh, C.-H. Kim and S.-J. Chung 817 Defect reduction in ZnMgSSe epilayers on GaAs by using ZnMgSe/ZnSSe strained-layer superlattices
- B. Machayekhi, J. Chevallier, B. Theys, J. M. Besson, G. Weill and G. Syfosse 821 Influence of hydrostatic pressure on the diffusion of hydrogen in *n*-GaAs:Si
- S. Uji, J. S. Brooks, M. Chaparala, L. Seger, T. Szabo, M. Tokumoto, N. Kinoshita, T. Kinoshita, Y. Tanaka and H. Anzai 825 Wave shape of de Haas-van Alphen oscillations and effective mass in the two-dimensional organic conductor  $\alpha$ -(BEDT-TTF)<sub>2</sub>KHg(SCN)<sub>4</sub>
- M. Ding, G.-S. Tian and T.-H. Lin 831 A phenomenological Landauer-type theory on colossal magnetoresistance
- V. I. Belitsky and M. Cardona 837 Final-state-interactions in the infrared absorption of doped semiconductors
- Z. Lin, Z. Wang, W. Chen, L. Lin, G. Li, Z. Liu, H. Han and Z. Wang 841 Absorption and Raman spectra of Se<sub>8</sub>-ring clusters in zeolite 5A
- S. H. Yang, A. S. Adourian, R. M. Westervelt, K. L. Campman and A. C. Gossard 845 Conductance oscillations in a deformable quantum ring
- S.-L. Yan and C.-Z. Yang 851 Finite cluster approximation for bond and site dilution transverse Ising model on square lattice
- A. Cruz Orea, I. Delgadillo, H. Vargas, J. L. Pichardo, J. J. Alvarado-Gil and L. C. M. Miranda 855 On the use of the photoacoustic technique for the measurement of the thermomechanical properties of semiconductor two-layer systems

N. Grigorchuk

P. Dai, J. Zhang, H. A. Mook, F. Foong,  
S.-H. Liou, P. A. Dowben and E. W. Plummer

K. H. Lee

861 Line-shape of light absorption by excitons in one-, two- and three-dimensional molecular structures

865 The static and dynamic lattice effects in  $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$

871 Thermal stability of mode-locking steps in charge density waves

877 Author Index Nos 1-12

i Keywords

## AUTHOR INDEX

- Abstreiter, G. (5) 321  
 Adourian, A.S. (12) 845  
 Adriaenssens, G. J. (7) 471  
 Ae Ran Lim (10) 731  
 Alami-Yadri, K. (6) 385  
 Allegrini, M. (6) 403  
 Alonso, R. (1) 47  
 Alvarado-Gil, J.J. (12) 855  
 Amand, T. (7) 445  
 Anzai, H. (12) 825  
 Ardelean, I. (8) 609  
 Aripnammal, S. (5) 341  
 Arkhipov, V. I. (7) 471  
 Arseyev, P. I. (8) 581  
 Assaid, E. (4) 217  
 Aulombard, R. L. (4) 207  
 Auluck, S. (9) 645  
 Avendaño-López, J. (1) 33  
 Azbel, M. Ya. (3) 195  
  
 Babić, E. (3) 187  
 Bahcall, S. R. (5) 297  
 Bairamov, B. H. (4) 263  
 Balasubramanian, S. (7) 525  
 Baldwin, K. W. (1) 1  
 Balkashin, O. P. (5) 293  
 Bányai, L. (5) 303  
 BaojieYan (7) 471  
 Baranov, P. G. (6) 371  
 Barrau, J. (7) 445  
 Basmaji, P. (4) 269  
 Bauer, G. E. W. (1) 37  
 Bawin, M. (9) 625  
  
 Belitsky, V.I. (12) 837  
 Belousov, A. I. (6) 421  
 Benedict, L. X. (3) 177  
 Bennemann, K. H. (8) 585  
 Bertoni, C. M. (7) 477  
 Besson, J.M. (12) 821  
 Bianconi, A. (3) 181  
 Bieleninik, J. (3) 149  
 Binder, M. (1) 13  
 Binder, R. (8) 555  
 Birman, J. L. (4) 275  
 Bist, H. D. (5) 337  
 Bo-Rong Shi (6) 397  
 Bonanni, B. (8) 591  
 Borghesi, A. (9) 657  
 Bosacchi, A. (4) 221  
 Bose, S.M. (9) 625  
 Bouree, F. (8) 575  
 Bourges, P. (10) 683  
 Briot, O. (4) 207  
 Brooks, J.S. (12) 825  
 Brosens, F. (2) 123  
 Brousseau, M. (7) 445  
 Bucher, G.L. (11) 777  
 Burr, C.R. (9) 635  
  
 Calmels, L. (3) 137  
 Campman, K.L. (12) 845  
 Cann, D. P. (7) 529  
 Cao, X.W. (9) 669  
 Capozzi, V. (1) 17  
 Carbone, C. (11) 749  
 Cardona, M. (12) 837

- Casali, R.A. (11) 795  
Casalta, H. (10) 683  
Castillo-Alvarado, F. L. (1) 33  
Cenan, I. (8) 609  
Chan Gyun Jo (5) 365  
Chang, I. M. (3) 157  
Chaparala, M. (12) 825  
Chattopadhyay, T. (2) 117  
Chen, W. (12) 841  
Chen, Y. F. (3) 157  
Cheng Tein. (3) 169  
Cheolse Kim. (6) 377  
Chevalier, B. (8) 575  
Chevallier, J (12) 821  
Choh, S. H. (6) 433  
Choi, H. J. (4) 231  
Choochun Lee. (6) 377  
Chuluo Yang. (6) 427  
Chung, S.-J. (12) 817  
Ciofi, C. (6) 403  
Cocletzi, G. H. (2) 111  
Cohen, M. L. (3) 177  
Contreras-Peunte, G. (1) 33  
Cozar, O. (8) 609  
Crivelli, B. (9) 651  
Cruz Orea, A. (12) 855  
Cunningham, J. E. (7) 497
- Dai, P. (12) 865  
Das Sarma, S. (6) 411  
Delgadillo, I. (12) 855  
Demangeot, F. (4) 207  
Demichelis, F. (8) 597  
Depero, L.E. (11) 801  
Devreese, J. T. (2) 123  
Devriendt, K. (7) 481  
DeVries, K. (9) 635  
Di Lernia, S. (4) 221  
Diligenti, A. (6) 403  
Ding, M (12) 831  
Ding, W.P. (11) 769  
DiSalvo, F.J. (11) 777  
Dobal, P. S. (5) 337
- Dou, S. X. (3) 187  
Dowben, P.A. (12) 865  
Dreyssé, H. (2) 67  
Du, Y.W. (11) 769  
Duarte, A. S (7) 463  
Dujardin, F. (4) 217
- Eberhardt, W. (11) 749  
Ebert, H. (10) 677  
Eccleston, R. S. (6) 381  
Edelmann, T. (1) 13  
Edge, A. V. J. (5) 307  
Enoki, T. (11) 755  
Er-xuan Ping, (5) 351  
Erbudak, M. (5) 315  
Erwin, S.C. (10) 691  
Escamilla-Esquivel, A. (1) 33  
Escudero, R. (7) 507  
Etchepare, J. (3) 133  
Ethridge, E.C. (10) 691  
Etourneau, J. (8) 575
- Faiman, D. (11) 781  
Fan, J. C. (3) 157  
Fang, J. (9) 669  
Farias, G.A. (10) 711  
Fasolino, A. (7) 477  
Fayek, S. A. (5) 345  
Fedorov, N. K. (8) 581  
Fei Lu (6) 397  
Ferrari, L. (8) 591  
Fiermans, L. (7) 481  
Filip, S. (8) 609  
Fischer, J. E. (7) 493  
Fisher, P. (4) 211  
Foong, F. (12) 865  
Fourgeot, F. (8) 575  
Fagnito, H. L. (7) 463  
Franchi, S. (4) 221  
Frandon, J. (4) 207  
Frauenheim, Th. (8) 549  
Fravel, B. (3) 191  
Fritze, M. (7) 497



- Frova, A. (8) 591  
Froyen, S. (1) 47  
Fujii, M. (4) 227  
Fujimori, H. (2) 83  
Fuso, F. (6) 403
- Gajjar, P. N. (11) 785  
Garg, K.B. (11) 773  
Gautier, C. A. (3) 133  
Geddo, M. (4) 221  
Gennser, U. (4) 269  
Gentili, M. (4) 221  
Gerschütz, J. (11) 739  
Ghandehari, K. (11) 777  
Ghilarducci, A.A. (9) 673  
Gigli, G. (8) 591  
Gil, B. (4) 207  
Gloskovska, N. K. (3) 149  
Gold, A. (3) 137  
Goren S. (11) 781  
Goslar, J. (7) 449  
Gossard, A.C. (12) 845  
Gottlieb, U. (5) 293  
Goze, C. (4) 237; (7) 493  
Gridnev, V. N. (2) 71  
Grigorchuk, N. (12) 861  
Grumbach, M. P. (2) 61  
Guenther, L. (2) 105  
Guo, Q. (12) 813  
Guo, Z.B. (11) 769  
Gusev, G. M. (4) 269
- Hagen, D. E. (6) 439  
Hajji, L. (4) 237; (7) 493  
Han, H. (12) 841  
Halevi, P. (5) 311  
Han, K. T. (6) 433  
Han Myoung Lee (5) 365  
Hang Nam Oak (7) 467  
Harañ, G. (3) 173  
Harendranath, C.S. (10) 721  
Häring, J. (1) 27  
Harker, S. J. (5) 307
- Haug, H. (5) 303  
Hawrylak, P. (7) 487  
Hayashi, S. (4) 227  
Heinz, B. (1) 27  
Hernández, P. H. (2) 111  
Hernando, A. (1) 57  
Hilczner, W. (7) 449  
Hines, D. (3) 143  
Hironobu Maeda (3) 153  
Hirooka, K. (11) 759  
Hochstrasser, M. (5) 315  
Hoffmann, S. K. (7) 449  
Hofstaetter, A. (7) 513  
Hommel, D. (11) 739  
Hong, S. C. (4) 231  
Hua Li (2) 129  
Huan-Chu Chen (6) 397  
Hugel, J. (7) 457  
Hughes, S. (8) 555
- Ibarra, M. R. (1) 57  
Iga, H. (8) 603  
Ihm, J. (4) 231  
Ikejira, M. (12) 813  
Ilyin, I. V. (6) 371  
Indik, R. (8) 555  
Ionescu, M. (3) 187  
Ishikawa, M. (6) 393  
Isidorsson, J. (10) 695  
Ivanov, A. (10) 683  
Iwai, K. (6) 383
- Jaccard, D. (6) 385  
Jacobson, A. J. (3) 143  
Jagadeesh, B. (7) 35; (7) 519  
Jain, R. K. (5) 337  
Jani, A.R. (11) 785  
Jansen, A. G. M. (5) 293  
Jayavel, B. (5) 341  
Jensen, P. J. (8) 585  
Ji-Tian Liu (6) 397  
Jie Tang (8) 571  
Jih Shang Hwang (3) 169

- Jin-Hae Chang (10) 731  
Jingui Qin. (6) 427  
Jinsheng Yang (9) 629  
Jobst, B. (11) 739  
Jones, D. J. (4) 237  
Joubert, D. P. (8) 561  
Jun-Ming Liu (5) 331  
Jung, J. K. (6) 433  
Jungnickel, G. (8) 549
- Kaczorowski, D. (1) 43  
Kagaya, H.-M. (10) 727  
Kamal, M. (7) 457  
Kang, K. N. (4) 231  
Kanzawa, Y. (4) 227  
Kapoor, A. (7) 503  
Kashyap, A. (9) 645  
Kasperczyk, J. (3) 149  
Kastalsky, (7) 497  
Katiyar, R. S. (5) 337  
Katz, E.A. (11) 781  
Kawaji, H. (6) 393  
Kawamura, T. (6) 411  
Kayanuma, Y. (2) 77  
Ke-Ming Wang (6) 397  
Kee Hag Lee (5) 365  
Kenji Ichimura. (6) 427  
Kernohan, E. T. M. (4) 245; (4) 263  
Khaled, M. (11) 773  
Khan, M.A. (9) 645  
Kim, C.-H. (12) 817  
Kim, D. S. (4) 231  
Kim, J.-S (12) 817  
Kim, M. G. (8) 565  
Kim, W. S. (4) 231  
Kim, Y. M. (4) 231  
King, B. V. (1) 21  
Kinoshita, N. (12) 825  
Kinsohita, T. (12) 825  
Kisker, E. (6) 415  
Kityk, I. V. (3) 149  
Kläsges, R. (11) 749  
Kleber, X. (4) 269
- Knorr, A. (8) 555  
Knox, W. H. (7) 497  
Ko, H. S. (4) 231  
Köbler, U. (2) 117  
Koch, S. W. (8) 555  
Kodama, S. (8) 603  
Köhler, Th. (8) 549  
König, D. (6) 381  
Kop'ev, P.S. (11) 763  
Korolev, A. V. (2) 89  
Kosaka, T. (8) 571  
Kraftmakher, Y. (3) 201  
Kremerman, V. A. (4) 275  
Kuklov, A. B. (4) 275  
Kumar, R. (5) 287  
Kuriyama, K. (6) 389  
Kušević, I. (3) 187  
Kwan Soo Hong (10) 731  
Kyung Seon Baek (7) 467  
Kyuya Yakuhiro. (6) 427
- Laborde, O. (5) 293  
Laffargue, D. (8) 575  
Landwehr, G. (11) 739  
Lanying Lin (2) 101  
Lanzara, A. (3) 181  
Lau, W. (5) 359  
Laulicht, I. (3) 201  
Le Goff, S. (4) 217  
Le Jeune, P. (7) 445  
Ledentsov, N.N. (11) 763  
Lee, K.H. (12) 871  
Lei Gao (1) 53  
Lemmens, L. F. (2) 123  
Levy, F. (9) 673  
Li, G. (12) 841  
Liang, X.X. (9) 629  
LiangMo Mei (2) 129  
Liberman, M. A. (2) 89  
Lin, K. L. (3) 169  
Lin, L. (12) 841  
Lin Li (8) 561  
Lin, T.-H. (12) 831

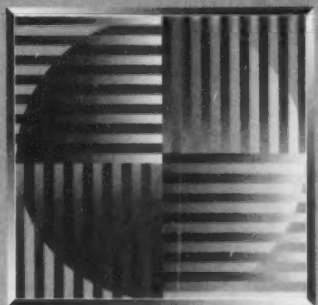
- Lin, Z. (12) 841  
Liou, S.-H. (12) 865  
Liu, H. K. (3) 187  
Liu, Y. (8) 597  
Liu, Z. (12) 841  
Longe, P. (9) 625  
Lorusso, G. F. (1) 17  
Louie, S. G. (3) 177  
Loulergue, J. C. (3) 133  
Lowther, J. E. (8) 561  
Lozovik, Yu. E. (6) 421  
Lubyshev, D. I. (4) 269  
Luo, H. (11) 777  
Lüthi, B. (6) 381  
Lutrus, C. K. (6) 439  
Lyubin, D. (11) 781  
  
MacDonald, R. J. (1) 21  
Machayekhi, B. (12) 821  
Madar, R. (5) 293  
Mahanti, S. D. (3) 143  
Maireles-Torres, P. (4) 237  
Manivannan, A. (5) 337  
Marie, X. (7) 445  
Marquina, C. (1) 57  
Martelli, F. (8) 591  
Martin, D. (1) 17  
Martin, R. M. (2) 61  
Martinek, J. (10) 717  
Martini, M. (9) 651  
Mascarenhas, A. (1) 47  
Matsumoto, T. (8) 571  
Maude, D. K. (4) 269  
Maznev, A.A. (12) 807  
McIntyre, G. J. (2) 117  
Mehring, M. (7) 493  
Mehta, S. K. (5) 337  
Meinardi, F. (9) 651  
Mendoza, D. (7) 507  
Meng-Qi Meng (6) 397  
Menshikov, A. Z. (4) 251  
Merz, J.L. (11) 763  
Metzger, T. H. (1) 13  
  
Meyer, J.R. (9) 663  
Miranda, L.C.M. (12) 855  
Misra, S. C. K. (7) 503  
Misra, T. N. (6) 407  
Mizukami, M. (2) 83  
Mokhov, E. N. (6) 371  
Moloney, J. V. (8) 555  
Montgomery, L. K. (3) 191  
Mook, H.A. (12) 865  
Môri, N. (8) 571  
  
Nagi, A. D. S. (3) 173  
Nagirnyi, V. (9) 621  
Naito, H. (8) 603  
Nakayama, Y. (11) 759  
Nannini, A. (6) 403  
Naoto Nagaosa (3) 163  
Narlikar, A.V. (9) 615  
Narsimlu, N. (10) 687  
Nastaushev, Yu. V. (4) 269  
Natarajan, S. (5) 341  
Nautiyal, T. (9) 645  
Navarro, E. (1) 57  
Nelson, K.A. (12) 807  
Nishio, M. (12) 813  
Nogami, Y. (11) 755  
Nordman, N. (4) 241  
  
O'Connor, D. J. (1) 21  
Ogawa, H. (12) 813  
Oguni, M. (2) 83  
Okada, M. (6) 389  
Ortiz-López, J. (1) 33  
Oshima, Y. (11) 755  
Oshiro, T. (6) 439  
Ossicini, S. (7) 477  
Östreich, Th. (5) 325  
  
Padalia, B.D. (10) 721  
Palange, E. (7) 463  
Palasantzas, G. (10) 699; (10) 705  
Paleari, A. (9) 651  
Palme, W. (6) 381

- Palomino-Ovando, M. (2) 111  
Panasiuk, M. R. (3) 149  
Park, Y. M. (6) 433  
Parmigiani, F. (11) 801  
Pathak, R. N. (7) 497  
Pazzi, G.P. (9) 621  
Peeters, F.M. (10) 711  
Peisl, J. (1) 13  
Pellegrini, V. (6) 403  
Pennelli, G. (6) 403  
Perakis, I. E. (7) 497  
Perali, A. (3) 181  
Pereira de Azevedo, M.M. (9) 639  
Peschiaroli, D. (4) 221  
Petitgrand, D. (10) 683  
Pfeiffer, L. N. (1) 1; (11) 743  
Phillips, R. T. (4) 245; (4) 263  
Pichardo, J.L. (12) 855  
Pick, S. (2) 67  
Pickett, W.E. (10) 691  
Pikus, F. G. (2) 95  
Pikus, G. E. (2) 95  
Pires, A.S.T. (11) 791  
Pivac, B. (9) 657  
Plummer, E.W. (12) 865  
Poelman, H. (7) 481  
Polyakov, N. V. (5) 355  
Pop, V. (8) 609  
Popov, E. A. (5) 355  
Porezag, D. (8) 549  
Portal, J. C. (4) 269  
Portengen, T. (5) 325  
Prabhu, S. S. (5) 287  
Prakash, O. (10) 721  
  
Rachdi, F. (4) 237; (7) 493  
Rajan, P. K. (7) 519; (7) 535  
Ram-Mohan, L.R. (9) 663  
Ramos-Mendieta, F. (5) 311  
Randall, C. A. (7) 529  
Rejaei, B. (1) 37  
Renucci, M. A. (4) 207  
Rhee, S. J. (4) 231  
  
Richards, D. (1) 7  
Ritchie, D. A. (4) 263  
Robart, D. (7) 445  
Rogalski, M.S. (9) 639  
Roh, K. S. (8) 565  
Roisnel, T. (8) 575  
Rollandi, L. (11) 801  
Ron, A. (11) 743  
Rönnow, R. (10) 695  
Rossi, J. C. (4) 269  
Rozière, J. (4) 237  
Ruoff, A.L. (11) 777  
Ryu, K. S. (8) 565  
  
Saha, D. C. (6) 407  
Said, M. (7) 477  
Saini, N. L. (3) 181; 773  
Saito, G. (11) 755  
Sakai, K. (6) 389  
Salminen, O. (4) 241  
Salva, H.R. (9) 673  
Samoggia, G. (11) 801  
Sarma, D.D. (11) 749  
Sassella, A. (9) 657  
Sastry, V. S. S. (7) 519; (7) 535  
Sato, M. (10) 727  
Schäfer, H. (11) 739  
Scharmann, A. (7) 513  
Schmitz, J. (1) 7  
Scholl, S. (11) 739  
Schweizer, J. (4) 251  
Schwenk, H. (6) 381  
Seeger, L. (12) 825  
Selci, S. (8) 591  
Seo, D.-K. (3) 191  
Seo, Y. M. (6) 433  
Seong Soo Park (5) 365  
Serita, E. (10) 727  
Setsuo Kashino (3) 153  
Sham, L. J. (5) 325  
Shames, A. (11) 781  
Shao, H. (11) 739  
Shen, Y. G. (1) 21

- Shi, J.Z. (9) 669  
Shrout, T. R. (7) 529  
Shtutina, S. (11) 781  
Sieling, M. (6) 381  
Silva, M. De, P. A. (4) 269  
Simmons, M. Y. (4) 263  
Šimundić, P. (3) 187  
Singh, M. (5) 359  
Singh, O.G. (10) 721  
Singh, S. (7) 503  
Sitch, P. K. (8) 549  
Sivarama Sastry, G. (10) 687  
Solanki, A.K. (9) 645  
Solin, S. A. (3) 143  
Soma, T. (10) 727  
Song, S. K. (6) 433  
Soonil Lee, (4) 257  
Sotomayor Torres, C.M. (11) 763  
Sousa, J.B. (9) 639  
Spinolo, G. (9) 651  
Staehli, J. L. (1) 17  
Stankowski, J. (10) 717  
Stébé, B. (4) 217  
Stella, A. (4) 221  
Stewart, G. A. (5) 307  
Stimmer, J. (5) 321  
Stolovich, A. (9) 621  
Stormer, H. L. (1) 1  
Studer, F. (11) 773  
Sturge, M.D. (11) 743  
Stüßer, N. (1) 43  
Suck Salk, S. H. (6) 439  
Suh, S.-H (12) 817  
Sung-Chul Shin, (6) 377  
Suzuki, I.S. (9) 635  
Suzuki, M. (9) 635  
Suzuki, T. (8) 571  
Syfosse, G. (12) 821  
Szabo, T. (12) 825  
  
Ta-Ryeong Park (4) 257  
Tadao Ishii (3) 153  
Tagliaferro, A. (8) 597  
  
Takao Morinari (3) 163  
Tanaka, S. (2) 77  
Tanaka, Y. (1) 37; (12) 825  
Tanguy, C. (7) 453  
Tassone, F. (1) 17  
Taylor, J. (3) 173  
Thakore, B.Y. (11) 785  
Theys, B. (12) 821  
Tian, G.-S. (12) 831  
Tillman, D. (6) 415  
Tokumoto, M. (12) 825  
Trail, S.S. (11) 777  
Tripathi, K. N. (7) 503  
Tsitsishvili, E. G. (7) 541  
  
U-Sung Choi (5) 365  
Uji, S. (12) 825  
Upreti, U.C. (9) 615  
Ushiyama, K. (6) 389  
Ustinov, V.M. (11) 763  
  
Vargas, H. (12) 855  
Vengurlekar, A. S. (5) 287  
Venkataraman, V. (7) 525  
Venu, K. (7) 519; (7) 535  
Vescovo, E. (11) 749  
Vickers, R. E. M. (4) 211  
Visscher, M. I. (1) 37  
Volkov, B. A. (8) 581  
Vurgafman, I. (9) 663  
  
Wagner, J. (1) 7  
Wahab, L. A. (5) 345  
Wang, P.D. (11) 763  
Wang, Z. (12) 841  
Wang, Z.H. (9) 669  
Wang Ro Lee (5) 365  
Watanabe, M. (11) 755  
Watterich, A. (7) 513  
Wei Chen (2) 101  
WeiJun Hu (2) 129  
Weill, G. (12) 821  
Weiss, U. (5) 281

- West, K. W. (1) 1  
West, R. (11) 759  
Westervelt, R.M. (12) 845  
Wetli, E. (5) 315  
Wetterer, C. (5) 321  
Whangbo, M.-H. (3) 191  
Wiedenmann, A. (5) 331  
Williams, Q. (2) 105  
Wojs, A. (7) 481  
Woo, D. H. (4) 231  
Woo, J. C. (4) 231  
Wuerz, R. (7) 513
- Xi-Ju Liu (6) 397  
Xiao, X. L. (1) 27  
Xu, X.J. (9) 669
- Yacoby, A. (1) 1  
Yagi, T. (12) 807  
Yamamoto, K. (4) 227  
Yamanaka, S. (6) 393  
Yamaura, J.-I. (11) 755  
Yan, S.-L. (12) 851  
Yang, C.-Z. (12) 851  
Yang, S.H. (12) 845  
Yang, W. (11) 769  
Yao, J. (1) 21  
Yaritska, L. I. (3) 149
- Yasuhiro Nakazawa. (6) 427  
Yasuo Nishihata (3) 153  
Yavari, A. R. (1) 57  
Yee, Y. H. (4) 231  
Yi-Hua Wang (6) 397  
Yo, C. H. (8) 565  
Yokoyama, K. (6) 389  
Yoon, H.W. (11) 743  
Yoshihiro Kubozono (3) 153  
Youri Jo (7) 467  
Yukihiro Yoshida (3) 153
- Zanotti, L. (9) 657  
Zazubovich, S. (9) 621  
Zelaya-Angel, O. (1) 33  
Zeplin, V. (9) 621  
Zhang, J.R. (11) 769  
Zhang, N. (11) 769  
Zhang Yong (1) 47  
Zhang, J. (12) 865  
Zhanguo Wang (2) 101  
Zhaojun Lin (2) 101  
Zhen Ye. (5) 351  
Zhen-ya Li (1) 53  
Zhikharev, V. A. (5) 355  
Ziemann, P. (1) 27  
Zvyagin, S. A. (6) 381





**solid  
state  
communications**

*Online*

<http://www.elsevier.com/locate/ssconline>

search



fully searchable

available at your desktop

immediately accessible

printable locally



**PERGAMON**  
An imprint of Elsevier Science



AVAILABLE AT YOUR FINGERTIPS...

# THE ELSEVIER SCIENCE CATALOGUE ON THE INTERNET

**Features include:**

- ORDER YOUR **FREE** SAMPLE COPY OF *JOURNAL/BOOK* TITLE TODAY BY CHECKING ITS CATALOGUE ENTRY

ELSEVIER SCIENCE



Catalogue on INTERNET

**Other features include:-**

- All the journals, with complete information about journal editors and editorial boards
- Listings of special issues and volumes
- Listings of recently published papers for many journals
- Complete descriptions and contents lists of book titles
- Clippings of independent reviews of published books
- Book series, dictionaries, reference works
- Electronic and CD-ROM products
- Full text search facilities
- Ordering facilities
- Print options
- Hypertext links
- Alerting facility for new & forthcoming publications
- Updated monthly

**TRY IT TODAY!**

<http://www.elsevier.nl/>

For further queries please contact:-

Customer Support Department

Tel: +1 (212) 633 3730

Fax: +1 (212) 633 3680

E-mail: [usinfo-f@elsevier.com](mailto:usinfo-f@elsevier.com)

Customer Support Department

Tel: +31 (20) 485 3757

Fax: +31 (20) 485 3432

E-mail: [nlinfo-f@elsevier.nl](mailto:nlinfo-f@elsevier.nl)

ELSEVIER SCIENCE



Catalogue on INTERNET

C07A05/p15



ELSEVIER



PERGAMON



NORTH  
HOLLAND



EXCERPTA  
MEDICA

# NEW! Contents by e-mail FREE!



**SOLID STATE COMMUNICATIONS**



***The pre-publication e-mail contents service***

- **Free of charge**
- **Pre-publication** - Contents pages delivered by e-mail, two to four weeks pre-publication
- **Easy to use**
- **Frequent** - Sent by e-mail on an issue-by-issue basis

***Don't wait for your existing contents service to catch up!***

***✍ Sign up today! ✍***

☐ **Yes**, I would like to sign up for **Solid State Communications** (00230)

First Name

Surname

☐ Mr ☐ Ms ☐ Prof ☐ Dr

University/Institution/Company

Department

Postal or Street Address

City and Zip Code

Country

Internet e-mail address

**IMPORTANT:** ContentsDirect can be sent to your Internet e-mail address only. If in doubt about your Internet e-mail address, contact your institution's information technology/telecommunications department for advice.

Simply fax or mail this form to:

**North America: Elsevier Science Inc.** Marketing Dept., 660 White Plains Road, Tarrytown, NY 10591-5153 USA  
Tel: +1 (914) 524-9200. Fax: +1 (914) 333-2444.

**Rest of World: Elsevier Science Ltd.** Marketing Dept., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK

Tel: +44 (0) 1865 843784 Fax: +44 (0) 1865 843986.

**Or e-mail your ContentsDirect request stating your name, full mailing address, e-mail number, and the title to which you wish to subscribe, to: p.mestECKY@elsevier.co.uk**

CD591



